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> [J Matern Fetal Neonatal Med.](#) 2021 Mar 15;1-8. doi: 10.1080/14767058.2021.1895738.

Online ahead of print.

# Prevalence of G6PD deficiency in Iranian neonates with jaundice: a systematic review and meta-analysis

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PMID: 33722175 DOI: [10.1080/14767058.2021.1895738](#)

## Abstract

**Objectives:** This systematic review and meta-analysis study aimed to estimate the overall prevalence of Glucose-6-phosphate dehydrogenase (G6PD) deficiency in neonates with jaundice who were admitted to hospitals in Iran.

**Materials and methods:** In this systematic review and meta-analysis, we searched PubMed/Medline, Scopus, ISI Web of Sciences, and Iranian Local databases up to December 2019. We calculated Prevalence and 95% Confidence Interval (95% CI) of G6PD deficiency as summary measures. We conducted subgroup analysis based on the sex and quality of studies, while meta-regression were applied for investigating the effect of years of studies and years of publication on the pooled prevalence. We applied sensitivity analysis to investigate the effect of excluding each study on the pooled prevalence estimation.

**Results:** The total sample size was 9799 people. The pooled prevalence of G6PD deficiency among neonates with jaundice in Iran was 7.0% (95% CI: 5.5-8.5%). The results of subgroup analysis showed that, pooled prevalence of G6PD deficiency among male neonate (12.1%, 95%CI: 7.6-16.7%) was more prevalent than female (3.00%, 95%CI: 1.1-4.9%). Based on the sensitivity analysis, lower and higher pooled prevalence of G6PD deficiency was observed 5.8% (95%CI: 4.7-6.9%) and 7.3% (95%CI: 5.7-8.8%) respectively by excluding each study.

**Conclusion:** The overall prevalence of G6PD deficiency was 7% in Iranian neonates with Jaundice. Prevalence was high in male and early hours of life. We recommend screening test for G6PD deficiency in neonates to prevent its complications.

**Keywords:** Glucosephosphate dehydrogenase; deficiency; jaundice; meta-analysis; neonatal.

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